

## Bulletin of the Iranian Mathematical Society

The Bulletin of the Iranian Mathematical Society is published six times a year. It publishes original research papers and invited survey articles in all areas of mathematical sciences, preferably accessible to a broad public.

**Submissions:** Manuscripts must be submitted via the online submission of BIMS. Upon acceptance, all papers should be prepared in L<sup>A</sup>T<sub>E</sub>X (in the style of BIMS). Manuscripts under consideration for the bulletin, should not be published or submitted for publication elsewhere.

**Preparation of manuscripts:** An abstract of 150 words or less, AMS *Mathematical Subject Classification* and *Keywords* clarifying the subject of the manuscript are required. The papers should bear the full names and addresses of all authors and their e-mails. References should be given in alphabetical order with the following format: a) to books - author, title, publisher, location, year of publication; b) to articles in periodicals or collections - author, title of the article, title of the periodical (collection), volume, year, pagination. Abbreviations of titles of periodicals and collections should be given following *Mathematical Reviews*.

**Indexing/Abstracting** The Bulletin of the Iranian Mathematical Society is indexed/abstracted in the following:

- Science Citation Index Expanded (also known as SciSearch)
- Journal Citation Reports/Science Edition
- Mathematical Reviews
- Zentralblatt MATH
- Directory of Open Access Journals (DOAJ)
- Islamic World Science Citation (ISC)
- SCOPUS
- EBSCO

**Subscription:** Please contact the Editorial Office for subscription information.

**Exchange:** Inquires for journal exchanges are requested to contact the Editorial Office.

---

### Editorial Board

- A. Abkar, Imam Khomeni International Univ., Qazvin, abkar@sci.ikiu.ac.ir  
A. Aghajani, Iran univ. of Science and Tech., Tehran, aghajani@iust.ac.ir  
M. Amini, Tarbiat Modares Univ., Tehran, mamini@modares.ac.ir  
A. R. Ashrafi, Univ. of Kashan, Kashan, ashrafi@kashanu.ac.ir  
S. Azam, Univ. of Isfahan, Isfahan, azam@sci.ui.ac.ir, saeidazam@yahoo.com  
E. Babolian, Kharazmi Univ., Tehran, babolian@khu.ac.ir  
A. Daneshgar, Sharif Univ. of Tech., Tehran, daneshgar@sharif.ac.ir  
M. T. Dibaie, Kharazmi Univ., Tehran, dibaieimt@ipm.ir  
H. R. Ebrahimi Vishki, Ferdowsi Univ. of Mashhad, Mashhad, vishki@um.ac.ir  
M. Eshaghi Gordji, Semnan Univ., Semnan, meshaghi@semnan.ac.ir  
A. Ghaffari, Semnan Univ., Semnan, aghaffari@semnan.ac.ir  
F. H. Ghane, Ferdowsi Univ. of Mashhad, Mashhad, ghane@math.um.ac.ir  
O. A. S. Karamzadeh, Shahid Chamran Univ. of Ahvaz, Ahvaz, karamzadeh@ipm.ir  
M. B. Kashani, Tarbiat Modares Univ., Tehran, kashanim@modares.ac.ir  
D. Khojasteh Salkuyeh, Univ. of Guilan, Rasht, khojasteh@guilan.ac.ir  
E. S. Mahmoodian, Sharif Univ. of Tech., Tehran, emahmood@sharif.edu  
H. Pezeshk, Univ. of Tehran, Tehran, pezeshk@khayam.ut.ac.ir  
M. Salahi, Univ. of Guilan, Rasht, salahim@guilan.ac.ir  
A. Salemi Parizi, Shahid Bahonar Univ. of Kerman, Kerman, salemi@mail.uk.ac.ir  
B. Yahaghi, Golestan Univ., Gorgan, bamdad5@hotmail.com  
R. Zaare-Nahandi, Univ. of Tehran, Tehran, rahimzn@ut.ac.ir

**Editor-in-Chief**

Abbas Salemi  
Shahid Bahonar Univ. of Kerman  
P.O. Box 76169-14111  
Kerman, Iran

**Managing Editor**

Hamid Pezeshk  
Univ. of Tehran  
P.O. Box 14155-6455  
Tehran, Iran

**Style-Language Editor**

Ali Abkar  
Imam Khomeini Int. Univ.  
P.O. BOX 34149-16818  
Qazvin, Iran

**Advisory Editorial Board****Mehdi Behzad**

Department of Mathematics, Shahid Beheshti Univ., Tehran, Iran,  
mbehzad@sharif.ac.ir

**Mehdi Radjabalipour**

Department of Mathematics, Shahid Bahonar Univ. of Kerman, Kerman, Iran,  
radjab45@mail.uk.ac.ir

**Heydar Radjavi**

Department of pure Mathematics, Univ. of Waterloo, Waterloo, Ontario, Canada N2L 3G1,  
hradjavi@math.uwaterloo.ca

**Freydoon Shahidi**

Department of Mathematics, Purdue Univ., West Lafayette, IN 47907, USA,  
shahidi@math.purdue.edu

**Cumrun Vafa**

Lyman Lab of Physics, Harvard Univ., Cambridge, MA 02138, USA,  
vafa@string.harvard.edu

**Associate Editors**

**Mohammad Asadzadeh:** Numerical Analysis, Partial Differential Equations  
Department of Mathematics, Chalmers University of Technology, SE-412 96 Gothenburg,  
Sweden, mohammad@math.chalmers.se

**Fariborz Azarpanah:** Topology, Rings of Continuous Functions  
Department of Mathematics, Shahid Chamran Univ. of Ahvaz, Ahvaz, Iran, azarpanah@ipm.ir

**Jean-Louis Cathelineau:** Algebraic K-theory and Cyclic Homology, Homology of Groups  
and Lie Algebras, Algebraic Topology  
Département de Mathématiques, Université de Nice - Sophia Antipolis, Parc Valrose, 06108  
Nice Cedex 02, France, cathe@math.unice.fr

**Rama Cont:** Probability, Stochastic Analysis, Stochastic Processes, Numerical Analysis of  
Partial Differential Equations, Simulation  
Laboratoire de Probabilités et Modèles Aléatoires CNRS - Université Paris VI 175 rue du  
Chevaleret F 75013 Paris, France, rama.con@upmc.fr

**Mohammad Reza Darafsheh:** Group Theory, Combinatorics, Representation Theory of  
Finite Groups  
Department of Mathematics, University of Tehran, P. O. Box 14155-6455 Tehran, Iran, daraf-  
sheh@ut.ac.ir

**Behzad Djafari-Rouhani:** Nonlinear Functional Analysis  
University of Texas at El Paso, USA, behzad@utep.edu

**Abbas Edalat:** Mathematical Aspects of Computer Science, O.D.E. via Computer Science  
Department of Computing, Imperial College, London SW7 2BZ, UK, ae@doc.ic.ac.uk

**Ali Enayat:** Mathematical Logic, Set Theory  
Department of Mathematics and Statistics, American Univ., 4400 Massachusetts Ave, NW,  
Washington, DC 20016-8050, USA, enayat@american.edu

**Paul Ernest:** Mathematical Education  
School of Education & LL, Univ. of Exeter, Heavitree Road, Exeter EX1 2LU, UK,  
p.ernest@ex.ac.uk

**Jost-Hinrich Eschenburg:** Differential Geometry  
Institut für Mathematik, Universität Augsburg, D-86135 Augsburg, Germany,  
eschenburg@math.uni-augsburg.de

**Samad Hedayat:** Statistics, Block Designs and Coding Theory  
Department of Mathematics, Statistics & Computer Science (M/C 249), Univ. of Illinois at  
Chicago, 851 South Morgan Street, Chicago, Illinois 60607-7045, USA, hedayat@uic.edu

**Bernhard Keller:** Representation Theory, Homological Algebra, Cluster Algebra  
Université Paris Diderot, Paris 7, Paris, France, keller@math.jussieu.fr

**Masoud Khalkhali:** Noncommutative Geometry, Cyclic Cohomology, Operator Algebra,  
Mathematical Physics  
Department of Mathematics, University of Western Ontario, London, Ontario N6A 5B7,  
Canada, masoud@uwo.ca

**Anthony To-Ming Lau:** Harmonic Analysis  
Department of Mathematical & Statistical Sciences, University of Alberta, Canada,  
tlau@math.ualberta.ca

**Javad Mashreghi:** Functions of a Complex Variable, Two Dimensional Potential Theory,  
Operator Theory  
Université Laval, Québec, Canada, javad.mashreghi@mat.ulaval.ca

**Maryam Mirzakhani:** Teichmüller Theory, Ergodic Theory  
Stanford University, USA, mmirzakh@math.stanford.edu

**Jamshid Moori:** Finite Group, Representation Theory, Combinatorics, Graphs and Codes  
School of Mathematical Sciences, University of KwaZulu-Natal, P Bag X01 Scottsville 3209,  
Pietermaritzburg, South Africa, moori@ukzn.ac.za

**Jean-Eric Pin:** Theoretical Computer Science, Automata Theory  
LIAFA, Université Paris VII, Case 7014, 2, place Jussieu, 75251 Paris Cedex 05, France,  
Jean-Eric.Pin@liafa.jussieu.fr

**Bruno Poizat:** Mathematical Logic, Model Theory, Complexity of Algorithms  
Institut Girard Desargues, Université Claude Bernard (Lyon-1), Mathématiques, Batiment  
101, 43, Boulevard du 11 Novembre 1918, 69622 Villeurbanne-cedex, France,  
poizat@desargues.univ-lyon1.fr

**Cheryl E. Praeger:** Combinatorics, Finite Group  
School of Mathematics and Statistics, Univ. of Western Australia, 35 Stirling Highway,  
Crawley WA 6009, Australia, praeger@maths.uwa.edu.au

**Fraydoun Rezakhanlou:** Probability Theory  
Department of Mathematics, University of California, Berkeley, CA 94720, USA,  
rezakhan@math.berkeley.edu

**Henrik Shahgholian:** Ordinary and Partial Differential Equations  
Department of Mathematics, Royal Institute of Technology, SE-100 44 Stockholm, Sweden,  
henriksh@math.kth.se

**Bernard Teissier:** Algebraic Geometry  
Institut Mathématique de Jussieu, UMR7586 Bureau 702, Bâtiment Sophie Germain, Case  
7012, 75205 Paris, Cedex 13, teissier@math.jussieu.fr

**Siamak Yassemi :** Commutative Algebra  
Department of Mathematics, University of Tehran, P.O. Box 14155-6455 Tehran, Iran,  
yassemi@khayam.ut.ac.ir

---

#### Editorial Office

Molood Bayat  
BIMS, P.O. Box 13145-418,  
Tehran, Iran  
E-mail: bims@ims.ir  
Tel and fax +982188807775